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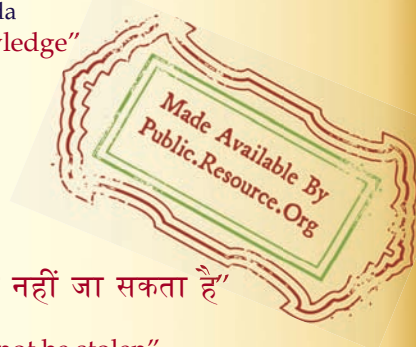
IS 3282 (1966): Dimensions for mushroom ventilators with adjustable head-cast iron type [TED 17: Shipbuilding]



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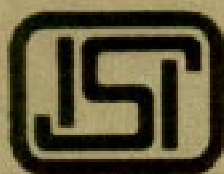
IS : 3282 - 1966

Indian Standard

DIMENSIONS FOR
MUSHROOM VENTILATORS WITH
ADJUSTABLE HEAD — CAST IRON TYPE

(First Reprint JUNE 1983)

UDC 621'61 : 629'12



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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
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Indian Standard

DIMENSIONS FOR MUSHROOM VENTILATORS WITH ADJUSTABLE HEAD — CAST IRON TYPE

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Indian Standard

DIMENSIONS FOR MUSHROOM VENTILATORS WITH ADJUSTABLE HEAD — CAST IRON TYPE

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 20 January 1966, after the draft finalized by the Marine Engineering and Shipbuilding Sectional Committee had been approved by the Mechanical Engineering Division Council.

0.2 This standard is one of a series of Indian Standards dealing with mushroom ventilators. Other standards in the series are:

IS : 3279-1966 General requirements for mushroom ventilators

IS : 3280-1966 Dimensions for mushroom ventilators with adjustable head — welded type

IS : 3281-1966 Dimensions for mushroom ventilators with fixed head — welded type

IS : 3283-1966 Dimensions for mushroom ventilators with adjustable head — cast iron type with provision for passage of light

0.3 In the preparation of this standard, assistance has been derived from the following standards, issued by Association Francaise de Normalization:

NF J 45-110 : 1955 Aérateur à vis, on fonte sans verre mort ensemble de montage (Ventilator — Cast iron type without glass assembly)

NF J 45-112 : 1955 Aérateur à vis, en fonte sans verre mort chapeau (Ventilator — Cast iron type without glass details of head)

NF J 45-114 : 1955 Aérateur à vis, en fonte avec ou sans verre mort siege avec guide (Ventilator — Cast iron type without glass details of body with guide)

NF J 45-126 : 1955 Aérateur à vis, en fonte tige de manœuvre (Ventilator — Cast iron type without glass details of operating spindle)

0.4 Indian Standard general requirements for mushroom ventilators (IS : 3279-1966) is a necessary adjunct to this standard.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies the dimensions for mushroom ventilators with adjustable head — cast iron type.

2. DESCRIPTION

2.1 The body of the mushroom ventilator is cast with a flange and is directly bolted on to the deck.

2.1.1 The body is provided internally with four webs and a centre bossing. The hole in the bossing is screwed to suit the operating spindle (*see* Fig. 1).

2.2 The mushroom head is cast with central bossing supported by suitable webs. A clear hole is provided in the bossing to lock the upper end of the spindle (*see* Fig. 1).

2.3 Two types, namely Type A and Type B, of operating spindles are used depending on the nominal size of the ventilator.

2.4 The assembly of cast iron type mushroom ventilator with adjustable head with Type A and Type B operating spindle shall be as shown in Fig. 1.

3. MATERIAL

3.1 The materials of the various parts of the ventilator shall be as given in IS : 3279-1966†.

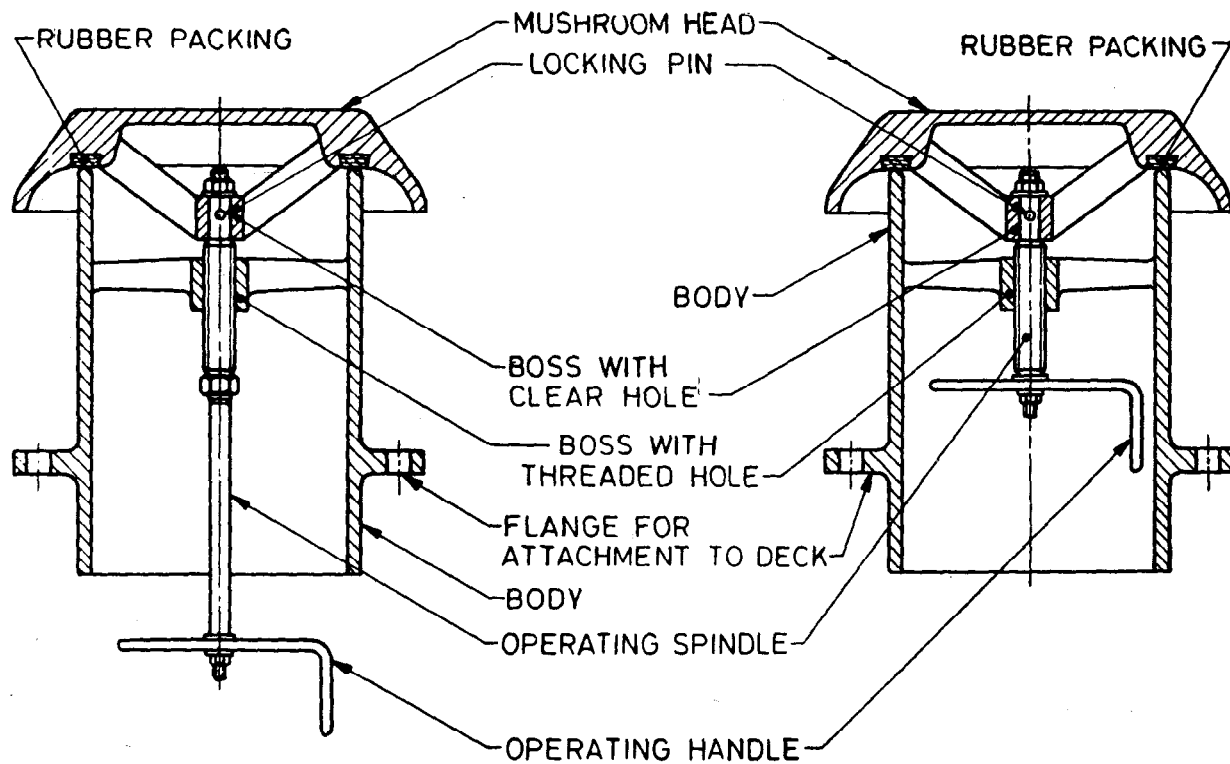
4. DIMENSIONS AND TOLERANCES

4.1 The dimensions for body and cast iron mushroom head shall be as given in Tables 1 and 2.

4.2 The dimensions for Type A and Type B operating spindles shall be as given in Table 3.

*Rules for rounding off numerical values (*revised*).

†General requirements for mushroom ventilators.



1A Assembly with Type A Operating Spindle

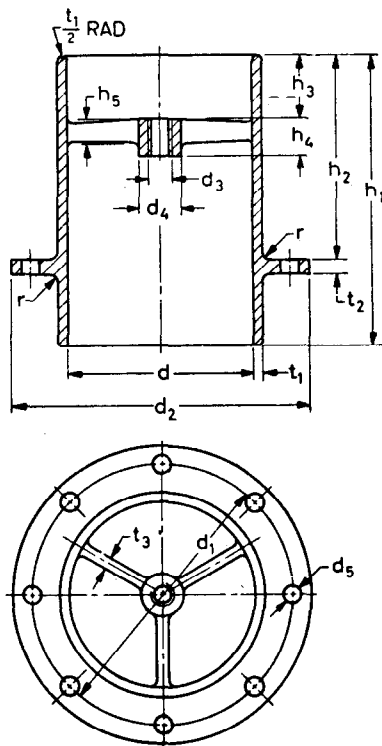
1B Assembly with Type B Operating Spindle

FIG. 1 ASSEMBLY OF CAST IRON TYPE MUSHROOM VENTILATOR WITH ADJUSTABLE HEAD

TABLE 1 DIMENSIONS FOR BODY

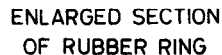
(Clause 4.1)

(All dimensions in millimetres)

NOMINAL
SIZENo. of
HOLES

d	d_1	d_2	d_3	d_4	d_5	h_1	h_2	h_3	h_4	h_5	r	t_1	t_2	t_3	
100	170	210	M24	40	18	226	135	66	40	25	8	8	16	8	6
150	225	265	M24	44	18	226	175	68	40	25	8	10	16	10	8
200	280	320	M24	44	18	313	220	70	40	25	8	10	18	12	8
250	335	375	M30	54	18	353	260	72	50	30	10	12	18	12	12
300	395	440	M30	54	22	393	300	78	50	30	10	12	18	14	12
350	445	490	M36	60	22	435	340	85	50	40	10	12	20	14	12
400	495	540	M36	60	22	475	380	92	50	40	10	12	20	14	16

(All dimensions in millimetres)

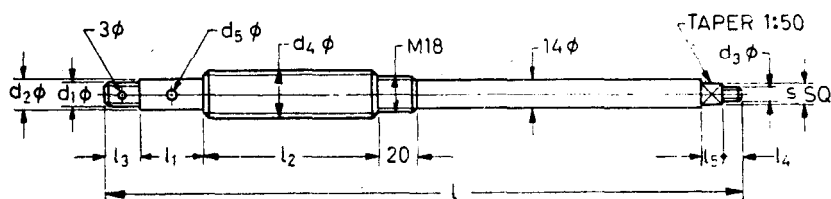


d	b_1	b_2	d_1	d_2	d_3	d_4	d_5	d_6	d_7	h_1	h_2	h_3	h_4	h_5	r_1	r_2	r_3	r_4	r_5	t_1	t_2
100	16	20	180	80	108	60	16	36	4	51	28	50	12	32	28	30	36	12	8	8	8
150	20	24	240	160	160	100	16	36	4	67	30	63	21	32	28	36	36	12	10	10	10
200	20	24	300	224	210	150	16	36	4	78	33	65	21	35	29	40	39	12	10	10	12
250	24	28	370	280	262	200	22	44	5	88	38	74	24	38	30	50	42	12	12	12	12
300	24	28	440	330	312	250	22	44	5	98	43	82	28	41	32	66	44	12	12	12	14
350	24	28	510	380	362	300	26	50	6	103	48	86	28	44	34	70	46	14	12	12	14
400	24	28	585	430	412	350	26	50	6	108	53	90	28	47	40	75	52	14	12	12	14

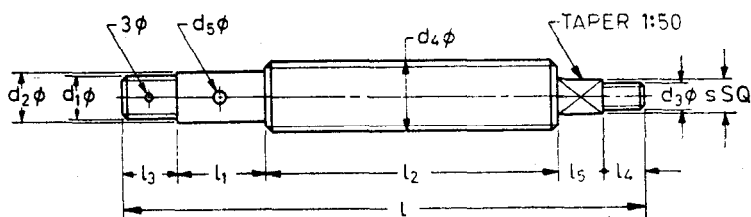
TABLE 3 DIMENSIONS FOR TYPE A AND TYPE B OPERATING SPINDLES

(Clause 4.2)

(All dimensions in millimetres)



Type A For Nominal Size 100 and 150



Type B For Nominal Size 200 and above

NOMINAL
SIZE

d	d_1	d_2	d_3	d_4	d_5	l	l_1	l_2	l_3	l_4	l_5	s
100	M12	15.5	M6	M24	5	286	33	83	18	11	10	8
150	M12	15.5	M6	M24	5	328	33	90	18	11	10	8
200	M12	15.5	M8	M24	5	190	36	105	18	16	15	12
250	M18	21.5	M8	M30	6	219	39	125	24	16	15	12
300	M18	21.5	M14	M30	6	256	42	145	24	23	22	17
350	M22	25.5	M14	M36	6	268	45	150	28	23	22	17
400	M22	25.5	M14	M36	6	286	48	165	28	23	22	17

4.3 The tolerances on the dimensions of the various parts of mushroom ventilators shall be according to the relevant Indian Standards, where available.

4.3.1 The tolerances on all other dimensions shall be according to the coarse series of IS : 2102-1962*.

5. DESIGNATION

5.1 The mushroom ventilator with adjustable head — cast iron type shall be designated by the name, type, the nominal size and number of this standard.

Example:

A mushroom ventilator with adjustable head — cast iron type of nominal size 150 mm, conforming to this standard shall be designated as:

Mushroom Ventilator with Adjustable Head — Cast Iron
Type 150 IS : 3282.

*Recommendation for machining deviations for dimensions without specified tolerances

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	Unit	Symbol
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	Unit	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	Unit	Symbol	Definition
Force	newton	N	1 N = 1 kg.m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

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